

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) Apparatus for processing data under control of data processing instructions specifying data processing operations, said apparatus comprising:

a first execution mechanism configured to execute a first set of data processing instructions;

a second execution mechanism configured to execute a second set of data processing instructions, said first set of data processing instructions overlapping with said second set of data processing instructions such that one or more data processing instructions are executable by either said first execution mechanism or said second execution mechanism; and

an execution mechanism selector configured when active to pseudo randomly select independently of external inputs to said apparatus either said first execution mechanism or said second execution mechanism to execute one or more data processing instructions that are executable by either said first execution mechanism or said second execution mechanism;

~~wherein a pseudo random signal generation circuitry configured to control said execution mechanism selector is configured to be controlled by~~ generating within said apparatus a pseudo random execution mechanism selecting signal ~~generated by a pseudo random signal generator so~~ as to pseudo randomly select either said first execution mechanism or said second execution mechanism.

2. (original) Apparatus as claimed in claim 1, wherein said first execution mechanism and said second execution mechanism have at least one different execution characteristic for at least one

of said data processing instructions that are executable by either said first execution mechanism or said second execution mechanism.

3. (original) Apparatus as claimed in claim 2, wherein said at least one different execution characteristic includes one or more of:

time to execute said data processing instruction; and

power consumption when executing said data processing instruction.

4. (previously presented) Apparatus as claimed in claim 2, wherein at least one execution characteristic of at least one data processing instruction executed by one of said first execution mechanism or said second execution mechanism varies in dependence upon whether a preceding data processing instruction was executed with either said first execution mechanism or said second execution mechanism.

5. (previously presented) Apparatus as claimed in claim 1, wherein all of said data processing instructions are executable by either said first execution mechanism or said second execution mechanism.

6. (previously presented) Apparatus as claimed in claim 1, wherein said first execution mechanism is configured to execute some of said data processing instructions as native instructions directly controlling data processing hardware and remaining data processing instructions using emulation software.

7. (previously presented) Apparatus as claimed claim 1, wherein said second execution mechanism is configured to execute all of said data processing instructions using emulation software.

8. (previously presented) Apparatus as claimed in claim 6, wherein said first execution mechanism and said second execution mechanism share at least some emulation software.

9. (previously presented) Apparatus as claimed in claim 1, wherein said data processing instructions are Java bytecode instructions.

10. (original) Apparatus as claimed in claim 9, wherein said first execution mechanism includes native Java bytecode execution hardware and said second execution mechanism uses Java bytecode emulation for all Java bytecodes.

11. (original) Apparatus as claimed in claim 1, comprising a processor core, said pseudo random execution mechanism selecting signal being an input to said processor core.

12. (previously presented) Apparatus as claimed in claim 1, wherein a system configuration parameter is configured to force said execution mechanism selector to select said first execution mechanism for all data processing instructions.

13. (original) Apparatus as claimed in claim 12, wherein said system configuration parameter is stored in a system configuration register.

14. (currently amended) A method of processing data with an apparatus for processing data under control of data processing instructions specifying data processing operations, said method comprising:

executing a first set of data processing instructions with a first execution mechanism;

executing a second set of data processing instructions with a second execution mechanism, said first set of data processing instructions overlapping with said second set of data processing instructions such that one or more data processing instructions are executable by either said first execution mechanism or said second execution mechanism; and

~~pseudo-randomly-selecting with an execution mechanism selector~~ when active and independently of external inputs to said apparatus either said first execution mechanism or said second execution mechanism to execute one or more data processing instructions that are executable by either said first execution mechanism or said second execution mechanism,

~~wherein said execution mechanism selector is controlled by generating within said apparatus with a pseudo random generator a pseudo random execution mechanism selecting signal-generated by a pseudo-random-signal-generator to control said execution mechanism selector so as to pseudo randomly select either said first execution mechanism or said second execution mechanism.~~

15. (original) A method as claimed in claim 14, wherein said first execution mechanism and said second execution mechanism have at least one different execution characteristic for at least one of said data processing instructions that are executable by either said first execution mechanism or said second execution mechanism.

16. (original) A method as claimed in claim 15, wherein said at least one different execution characteristic includes one or more of:

time to execute said data processing instruction; and

power consumption when executing said data processing instruction.

17. (previously presented) A method as claimed in claim 15, wherein at least one execution characteristic of at least one data processing instruction executed by one of said first execution mechanism or said second execution mechanism varies in dependence upon whether a preceding data processing instruction was executed with either said first execution mechanism or said second execution mechanism.

18. (previously presented) A method as claimed in claim 14, wherein all of said data processing instructions are executable by either said first execution mechanism or said second execution mechanism.

19. (previously presented) A method as claimed in claim 14, wherein said first execution mechanism is operable to execute some of said data processing instructions as native instructions directly controlling data processing hardware and remaining data processing instructions using emulation software.

20. (previously presented) A method as claimed in claim 14, wherein said second execution mechanism is operable to execute all of said data processing instructions using emulation software.

21. (previously presented) A method as claimed in claim 19, wherein said first execution mechanism and said second execution mechanism share at least some emulation software.

22. (previously presented) A method as claimed in claim 14, wherein said data processing instructions are Java bytecode instructions.

23. (original) A method as claimed in claim 22, wherein said first execution mechanism includes native Java bytecode execution hardware and said second execution mechanism uses Java bytecode emulation for all Java bytecodes,

24. (original) A method as claimed in claim 14, comprising a processor core, said pseudo random execution mechanism selecting signal being an input to said processor core.

25. (previously presented) A method as claimed in claim 14, wherein a system configuration parameter is operable to force said execution mechanism selector to select said first execution mechanism for all data processing instructions.

26. (original) A method as claimed in claim 25, wherein said system configuration parameter is stored in a system configuration register.